	Application No.	Applicant(s)
Notice of Allowability	10/006,754	MA ET AL.
	Examiner	Art Unit
	Afsar M. Qureshi	2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to _____.

2. ☐ The allowed claim(s) is/are _____.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None of the:

       1. ☐ Certified copies of the priority documents have been received.

       2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

       3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

       1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)

6. ☒ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☐ Examiner's Amendment/Comment

8. ☐ Examiner's Statement of Reasons for Allowance

9. ☒ Other _____.

AFSAR QURESHI
PRIMARY EXAMINER
5/36/06

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes

and/or additions be unacceptable to applicant, an amendment may be filed as provided

by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be

submitted no later than the payment of the issue fee.

1.   The Applicant agreed and authorized the charge, for an extension of time,

any additional fees that may be needed, and credit and overpayment, to their Deposit

Account No. 50-0320 (see attached Interview Summary).

2.   Authorization for this examiner's amendment was given in a telephone

interview with Paul Levy on 5/30/2006.

3.   The application has been amended as follows:

IN THE CLAIMS:

(A)   Claims 1, 5, 8 and 12 have been amended as below:

CLAIM 1.   A receiver for a communication system including a plurality of base

stations and a plurality of receivers, each base station transmitting a respective CDMA signal

including data intended for each of a set of one or more of the receivers, the data intended for

each of the receivers being encoded in the CDMA signal using a respective spreading code for

that receiver, the receiver including:

reception means for receiving a signal including CDMA signals having a

processing gain of N, said reception means:

generating G measurements in each chip duration of the CDMA signal, where G is an

integer;

each of said set of weights consisting of G(2M+1) weights, where M is an

integer;

said combined signal being a sum over the branch processing means of

the product of:

(i) a vector derived from said spreading code for the receiver and

the scrambling code of the corresponding base station;

(ii) a data matrix composed of said measurements and having

G(2M+1) x N components; and

(iii) the set of weights for the respective branch processing means;

a plurality of branch processing means, the reception means being capable of transmitting

the received signal to each branch processing means, each branch processing means

corresponding to a respective one of the base stations and arranged to modify the received signal

by the operations of:

(i) data equalization, based on a respective filter using a respective set of weights;

and

(ii) decoding the spreading code for the receiver;

decision means for using an output of each branch processing means to generate an error

signal and an estimate signal indicative of the data in the received signal intended for the

receiver; and

adaptation means for modifying the respective set of weights using the error signal

wherein the CDMA signal transmitted by each base station is encoded using a

respective scrambling code for that base station, and said decoding uses the

scrambling code of the corresponding base station,

wherein said decision means combines the outputs of the plurality of branch

processing means into a combined signal.

CLAIM 5.   A receiver according to claim [[3]]1 in which the detection means is

arranged to generate said error signal as the difference between said combined signal

and a correction signal.

CLAIM 8.   A method of extracting data intended for a first user from one or more

CDMA signals, each broadcast by a respective base station, each CDMA signal

including data intended for the first user and data intended one or more other users, the

data for each user being encoded using a respective spreading code, the method

including:

receiving a signal including the one or more CDMA signals wherein said CDMA

signals have a processing gain of N,

said step of receiving a signal includes generating G measurements in each chip duration of the CDMA signal, where G is an integer;

each of said set of weights comprises G(2M+1) weights, where M is an integer; and

said combined signal is a sum over the processing branches of the product of:

(i) a vector derived from said spreading code for the first receiver and the scrambling code of the corresponding base station;

(ii) a data matrix composed of said measurements and having (G(2M+1) x N components, and

(iii) the set of weights for the respective processing branch.;

transmitting the received signal along a plurality of processing branches corresponding to different respective base stations;

modifying the received signal in each processing branch by the operations of:

(i) data equalization in respect of the corresponding base station, based on a respective set of weights; and

(ii) decoding, using the spreading code for the first user;

using an output signal generated from the outputs of each processing branch to derive an error signal and an estimate signal indicative of the data in the received signal intended for the first user; and
modifying each respective set of weights using the error signal,

wherein the CDMA signal transmitted by each base station is encoded using a respective scrambling code and said decoding uses the scrambling code of the corresponding base station,

wherein said output signal comprises a combined signal generated by combining the outputs of the plurality of processing branches.

CLAIM 12.   A method according to claim [[10]]8 in which said error signal is the difference between said combined signal and a correction signal.

(B)   Claims 2-4, 9-11 and 15-17 have been cancelled.

4.   **Claims 1, 5-8 and 12-14 are allowed over prior art of record.**

5.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Afsar M. Qureshi whose telephone number is (571) 272 3178. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ahmad Matar can be reached on (571) 272 7488. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AFSAR QURESHI
PRIMARY EXAMINER

5/30/2006